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<151> 2002-06-28

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                                             Met Gly Pro Ala Pro
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ctg ccg ctg ctg ctg ggc ctc ttc ctc ccc gcg ctc tgg cgt aga gct  163
Leu Pro Leu Leu Leu Gly Leu Phe Leu Pro Ala Leu Trp Arg Arg Ala
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atc act gag gca agg gaa gaa gcc aag cct tac ccg cta ttc ccg gga  211
Ile Thr Glu Ala Arg Glu Glu Ala Lys Pro Tyr Pro Leu Phe Pro Gly
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cct ttt cca ggg agc ctg caa act gac cac aca ccg ctg tta tcc ctt  259
Pro Phe Pro Gly Ser Leu Gln Thr Asp His Thr Pro Leu Leu Ser Leu
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cct cac gcc agt ggg tac cag cct gcc ttg atg ttt tca cca acc cag  307
Pro His Ala Ser Gly Tyr Gln Pro Ala Leu Met Phe Ser Pro Thr Gln
    55                  60                  65

cct gga aga cca cat aca gga aac gta gcc att ccc cag gtg acc tct  355
Pro Gly Arg Pro His Thr Gly Asn Val Ala Ile Pro Gln Val Thr Ser
70                  75                  80                  85

gtc gaa tca aag ccc cta ccg cct ctt gcc ttc aaa cac aca gtt gga  403
Val Glu Ser Lys Pro Leu Pro Pro Leu Ala Phe Lys His Thr Val Gly
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cac ata ata ctt tct gaa cat aaa ggt gtc aaa ttt aat tgc tca atc     451
His Ile Ile Leu Ser Glu His Lys Gly Val Lys Phe Asn Cys Ser Ile
            105                     110                     115

agt gta cct aat ata tac cag gac acc aca att tct tgg tgg aaa gat     499
Ser Val Pro Asn Ile Tyr Gln Asp Thr Thr Ile Ser Trp Trp Lys Asp
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ggg aag gaa ttg ctt ggg gca cat cat gca att aca cag ttt tat cca     547
Gly Lys Glu Leu Leu Gly Ala His His Ala Ile Thr Gln Phe Tyr Pro
    135                     140                     145

gat gat gaa gtt aca gca ata atc gct tcc ttc agc ata acc agt gtg     595
Asp Asp Glu Val Thr Ala Ile Ile Ala Ser Phe Ser Ile Thr Ser Val
150                     155                     160                     165

cag cgt tca gac aat ggg tcg tat atc tgt aag atg aaa ata aac aat     643
Gln Arg Ser Asp Asn Gly Ser Tyr Ile Cys Lys Met Lys Ile Asn Asn
                170                     175                     180

gaa gag atc gtg tct gat ccc atc tac atc gaa gta caa gga ctt cct     691
Glu Glu Ile Val Ser Asp Pro Ile Tyr Ile Glu Val Gln Gly Leu Pro
                185                     190                     195

cac ttt act aag cag cct gag agc atg aat gtc acc aga aac aca gcc     739
His Phe Thr Lys Gln Pro Glu Ser Met Asn Val Thr Arg Asn Thr Ala
            200                     205                     210

ttc aac ctc acc tgt cag gct gtg ggc ccg cct gag ccc gtc aac att     787
Phe Asn Leu Thr Cys Gln Ala Val Gly Pro Pro Glu Pro Val Asn Ile
    215                     220                     225

ttc tgg gtt caa aac agt agc cgt gtt aac gaa cag cct gaa aaa tcc     835
Phe Trp Val Gln Asn Ser Ser Arg Val Asn Glu Gln Pro Glu Lys Ser
230                     235                     240                     245

ccc tcc gtg cta act gtt cca ggc ctg acg gag atg gcg gtc ttc agt     883
Pro Ser Val Leu Thr Val Pro Gly Leu Thr Glu Met Ala Val Phe Ser
                250                     255                     260

tgt gag gcc cac aat gac aaa ggg ctg acc gtg tcc aag gga gtg cag     931
Cys Glu Ala His Asn Asp Lys Gly Leu Thr Val Ser Lys Gly Val Gln
            265                     270                     275

atc aac atc aaa gca att ccc tcc cca cca act gaa gtc agc atc cgt     979
Ile Asn Ile Lys Ala Ile Pro Ser Pro Pro Thr Glu Val Ser Ile Arg
            280                     285                     290

aac agc act gca cac agc att ctg atc tcc tgg gtt cct ggt ttt gat     1027
Asn Ser Thr Ala His Ser Ile Leu Ile Ser Trp Val Pro Gly Phe Asp
    295                     300                     305

gga tac tcc ccg ttc agg aat tgc agc att cag gtc aag gaa gct gat     1075
Gly Tyr Ser Pro Phe Arg Asn Cys Ser Ile Gln Val Lys Glu Ala Asp
310                     315                     320                     325

ccg ctg agt aat ggc tca gtc atg att ttt aac acc tct gcc tta cca     1123
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Pro Leu Ser Asn Gly Ser Val Met Ile Phe Asn Thr Ser Ala Leu Pro
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cat ctg tac caa atc aag cag ctg caa gcc ctg gct aat tac agc att   1171
His Leu Tyr Gln Ile Lys Gln Leu Gln Ala Leu Ala Asn Tyr Ser Ile
            345   350   355

ggt gtt tcc tgc atg aat gaa ata ggc tgg tct gca gtg agc cct tgg   1219
Gly Val Ser Cys Met Asn Glu Ile Gly Trp Ser Ala Val Ser Pro Trp
            360   365   370

att cta gcc agc acg act gaa gga gcc cca tca gta gca cct tta aat   1267
Ile Leu Ala Ser Thr Thr Glu Gly Ala Pro Ser Val Ala Pro Leu Asn
            375   380   385

gtc act gtg ttt ctg aat gaa tct agt gat aat gtg gac atc aga tgg   1315
Val Thr Val Phe Leu Asn Glu Ser Ser Asp Asn Val Asp Ile Arg Trp
390   395   400   405

atg aag cct ccg act aag cag cag gat gga gaa ctg gtg ggc tac cgg   1363
Met Lys Pro Pro Thr Lys Gln Gln Asp Gly Glu Leu Val Gly Tyr Arg
            410   415   420

ata tcc cac gtg tgg cag agt gca ggg att tcc aaa gag ctc ttg gag   1411
Ile Ser His Val Trp Gln Ser Ala Gly Ile Ser Lys Glu Leu Leu Glu
            425   430   435

gaa gtt ggc cag aat ggc agc cga gct cgg atc tct gtt caa gtc cac   1459
Glu Val Gly Gln Asn Gly Ser Arg Ala Arg Ile Ser Val Gln Val His
            440   445   450

aat gct acg tgc aca gtg agg att gca gcc gtc acc aga ggg gga gtt   1507
Asn Ala Thr Cys Thr Val Arg Ile Ala Ala Val Thr Arg Gly Gly Val
            455   460   465

ggg ccc ttc agt gat cca gtg aaa ata ttt atc cct gca cac ggt tgg   1555
Gly Pro Phe Ser Asp Pro Val Lys Ile Phe Ile Pro Ala His Gly Trp
470   475   480   485

gta gat tat gcc ccc tct tca act ccg gcg cct ggc aac gca gat cct   1603
Val Asp Tyr Ala Pro Ser Ser Thr Pro Ala Pro Gly Asn Ala Asp Pro
            490   495   500

gtg ctc atc atc ttt ggc tgc ttt tgt gga ttt att ttg att ggg ttg   1651
Val Leu Ile Ile Phe Gly Cys Phe Cys Gly Phe Ile Leu Ile Gly Leu
            505   510   515

att tta tac atc tcc ttg gcc atc aga aaa aga gtc cag gag aca aag   1699
Ile Leu Tyr Ile Ser Leu Ala Ile Arg Lys Arg Val Gln Glu Thr Lys
            520   525   530

ttt ggg aat gca ttc aca gag gag gat tct gaa tta gtg gtg aat tat   1747
Phe Gly Asn Ala Phe Thr Glu Glu Asp Ser Glu Leu Val Val Asn Tyr
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ata gca aag aaa tcc ttc tgt cgg cga gcc att gaa ctt acc tta cat   1795
Ile Ala Lys Lys Ser Phe Cys Arg Arg Ala Ile Glu Leu Thr Leu His
550   555   560   565

- 4 -

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agc ttg gga gtc agt gag gaa cta caa aat aaa cta gaa gat gtt gtg   1843
Ser Leu Gly Val Ser Glu Glu Leu Gln Asn Lys Leu Glu Asp Val Val
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att gac agg aat ctt cta att ctt gga aaa att ctg ggt gaa gga gag   1891
Ile Asp Arg Asn Leu Leu Ile Leu Gly Lys Ile Leu Gly Glu Gly Glu
            585             590             595

ttt ggg tct gta atg gaa gga aat ctt aag cag gaa gat ggg acc tct   1939
Phe Gly Ser Val Met Glu Gly Asn Leu Lys Gln Glu Asp Gly Thr Ser
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ctg aaa gtg gca gtg aag acc atg aag ttg gac aac tct tca cag cgg   1987
Leu Lys Val Ala Val Lys Thr Met Lys Leu Asp Asn Ser Ser Gln Arg
    615             620             625

gag atc gag gag ttt ctc agt gag gca gcg tgc atg aaa gac ttc agc   2035
Glu Ile Glu Glu Phe Leu Ser Glu Ala Ala Cys Met Lys Asp Phe Ser
630             635             640             645

cac cca aat gtc att cga ctt cta ggt gtg tgt ata gaa atg agc tct   2083
His Pro Asn Val Ile Arg Leu Leu Gly Val Cys Ile Glu Met Ser Ser
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caa ggc atc cca aag ccc atg gta att tta ccc ttc atg aaa tac ggg   2131
Gln Gly Ile Pro Lys Pro Met Val Ile Leu Pro Phe Met Lys Tyr Gly
            665             670             675

gac ctg cat act tac tta ctt tat tcc cga ttg gag aca gga cca aag   2179
Asp Leu His Thr Tyr Leu Leu Tyr Ser Arg Leu Glu Thr Gly Pro Lys
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cat att cct ctg cag aca cta ttg aag ttc atg gtg gat att gcc ctg   2227
His Ile Pro Leu Gln Thr Leu Leu Lys Phe Met Val Asp Ile Ala Leu
    695             700             705

gga atg gag tat ctg agc aac agg aat ttt ctt cat cga gat tta gct   2275
Gly Met Glu Tyr Leu Ser Asn Arg Asn Phe Leu His Arg Asp Leu Ala
710             715             720             725

gct cga aac tgc atc acc cac ctg gcc atc tta gca aga agc cca gca   2323
Ala Arg Asn Cys Ile Thr His Leu Ala Ile Leu Ala Arg Ser Pro Ala
            730             735             740

tct tgc tct tac tgc agg ttg cga gat gac atg act gtc tgt gtt gcg   2371
Ser Cys Ser Tyr Cys Arg Leu Arg Asp Asp Met Thr Val Cys Val Ala
            745             750             755

gac ttc ggc ctc tct aag aag att tac agt ggc gat tat tac cgc caa   2419
Asp Phe Gly Leu Ser Lys Lys Ile Tyr Ser Gly Asp Tyr Tyr Arg Gln
        760             765             770

ggc cgc att gct aag atg cct gtt aaa tgg atc gcc ata gaa agt ctt   2467
Gly Arg Ile Ala Lys Met Pro Val Lys Trp Ile Ala Ile Glu Ser Leu
    775             780             785

gca gac cga gtc tac aca agt aaa agt gat gtg tgg gca ttt ggc gtg   2515
Ala Asp Arg Val Tyr Thr Ser Lys Ser Asp Val Trp Ala Phe Gly Val
790             795             800             805
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acc atg tgg gaa ata gct acg cgg gga atg act ccc tat cct ggg gtc    2563
Thr Met Trp Glu Ile Ala Thr Arg Gly Met Thr Pro Tyr Pro Gly Val
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cag aac cat gag atg tat gac tat ctt ctc cat ggc cac agg ttg aag    2611
Gln Asn His Glu Met Tyr Asp Tyr Leu Leu His Gly His Arg Leu Lys
            825             830             835

cag ccc gaa gac tgc ctg gat gaa ctg tat gaa ata atg tac tct tgc    2659
Gln Pro Glu Asp Cys Leu Asp Glu Leu Tyr Glu Ile Met Tyr Ser Cys
            840             845             850

tgg aga acc gat ccc tta gac cgc ccc acc ttt tca gta ttg agg ctg    2707
Trp Arg Thr Asp Pro Leu Asp Arg Pro Thr Phe Ser Val Leu Arg Leu
    855             860             865

cag cta gaa aaa ctc tta gaa agt ttg cct gac gtt cgg aac caa gca    2755
Gln Leu Glu Lys Leu Leu Glu Ser Leu Pro Asp Val Arg Asn Gln Ala
870             875             880             885

gac gtt att tac gtc aat aca cag ttg ctg gag agc tct gag ggc ctg    2803
Asp Val Ile Tyr Val Asn Thr Gln Leu Leu Glu Ser Ser Glu Gly Leu
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gcc cag ggc tcc acc ctt gct cca ctg gac ttg aac atc gac cct gac    2851
Ala Gln Gly Ser Thr Leu Ala Pro Leu Asp Leu Asn Ile Asp Pro Asp
            905             910             915

tct ata att gcc tcc tgc act ccc cgc gct gcc atc agt gtg gtc aca    2899
Ser Ile Ile Ala Ser Cys Thr Pro Arg Ala Ala Ile Ser Val Val Thr
            920             925             930

gca gaa gtt cat gac agc aaa cct cat gaa gga cgg tac atc ctg aat    2947
Ala Glu Val His Asp Ser Lys Pro His Glu Gly Arg Tyr Ile Leu Asn
    935             940             945

ggg ggc agt gag gaa tgg gaa gat ctg act tct gcc ccc tct gct gca    2995
Gly Gly Ser Glu Glu Trp Glu Asp Leu Thr Ser Ala Pro Ser Ala Ala
950             955             960             965

gtc aca gct gaa aag aac agt gtt tta ccg ggg gag aga ctt gtt agg    3043
Val Thr Ala Glu Lys Asn Ser Val Leu Pro Gly Glu Arg Leu Val Arg
            970             975             980

aat ggg gtc tcc tgg tcc cat tcg agc atg ctg ccc ttg gga agc tca    3091
Asn Gly Val Ser Trp Ser His Ser Ser Met Leu Pro Leu Gly Ser Ser
            985             990             995

ttg ccc gat gaa ctt ttg ttt gct gac gac tcc tca gaa ggc tca gaa    3139
Leu Pro Asp Glu Leu Leu Phe Ala Asp Asp Ser Ser Glu Gly Ser Glu
            1000            1005            1010

gtc ctg atg tga ggagaggtgc ggggagacat tccaaaaatc aagccaattc       3191
Val Leu Met *
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Pro Leu Phe Pro Gly Pro Phe Pro Gly Ser Leu Gln Thr Asp His Thr
        35                  40                  45
Pro Leu Leu Ser Leu Pro His Ala Ser Gly Tyr Gln Pro Ala Leu Met
        50                  55                  60
Phe Ser Pro Thr Gln Pro Gly Arg Pro His Thr Gly Asn Val Ala Ile
65                  70                  75                  80
Pro Gln Val Thr Ser Val Glu Ser Lys Pro Leu Pro Pro Leu Ala Phe
                85                  90                  95
Lys His Thr Val Gly His Ile Ile Leu Ser Glu His Lys Gly Val Lys
            100                 105                 110
Phe Asn Cys Ser Ile Ser Val Pro Asn Ile Tyr Gln Asp Thr Thr Ile
            115                 120                 125
Ser Trp Trp Lys Asp Gly Lys Glu Leu Leu Gly Ala His His Ala Ile
    130                 135                 140
Thr Gln Phe Tyr Pro Asp Asp Glu Val Thr Ala Ile Ile Ala Ser Phe
145                 150                 155                 160
Ser Ile Thr Ser Val Gln Arg Ser Asp Asn Gly Ser Tyr Ile Cys Lys
                165                 170                 175
Met Lys Ile Asn Asn Glu Glu Ile Val Ser Asp Pro Ile Tyr Ile Glu
            180                 185                 190
Val Gln Gly Leu Pro His Phe Thr Lys Gln Pro Glu Ser Met Asn Val
            195                 200                 205
Thr Arg Asn Thr Ala Phe Asn Leu Thr Cys Gln Ala Val Gly Pro Pro
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Glu Pro Val Asn Ile Phe Trp Val Gln Asn Ser Ser Arg Val Asn Glu
225                 230                 235                 240
Gln Pro Glu Lys Ser Pro Ser Val Leu Thr Val Pro Gly Leu Thr Glu
                245                 250                 255
Met Ala Val Phe Ser Cys Glu Ala His Asn Asp Lys Gly Leu Thr Val
            260                 265                 270
Ser Lys Gly Val Gln Ile Asn Ile Lys Ala Ile Pro Ser Pro Pro Thr
    275                 280                 285
Glu Val Ser Ile Arg Asn Ser Thr Ala His Ser Ile Leu Ile Ser Trp
    290                 295                 300
Val Pro Gly Phe Asp Gly Tyr Ser Pro Phe Arg Asn Cys Ser Ile Gln
305                 310                 315                 320
Val Lys Glu Ala Asp Pro Leu Ser Asn Gly Ser Val Met Ile Phe Asn
            325                 330                 335
Thr Ser Ala Leu Pro His Leu Tyr Gln Ile Lys Gln Leu Gln Ala Leu
            340                 345                 350
Ala Asn Tyr Ser Ile Gly Val Ser Cys Met Asn Glu Ile Gly Trp Ser
    355                 360                 365
Ala Val Ser Pro Trp Ile Leu Ala Ser Thr Thr Glu Gly Ala Pro Ser
    370                 375                 380
Val Ala Pro Leu Asn Val Thr Val Phe Leu Asn Glu Ser Ser Asp Asn
385                 390                 395                 400
Val Asp Ile Arg Trp Met Lys Pro Pro Thr Lys Gln Gln Asp Gly Glu
            405                 410                 415
Leu Val Gly Tyr Arg Ile Ser His Val Trp Gln Ser Ala Gly Ile Ser
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Lys Glu Leu Leu Glu Glu Val Gly Gln Asn Gly Ser Arg Ala Arg Ile
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Thr Arg Gly Gly Val Gly Pro Phe Ser Asp Pro Val Lys Ile Phe Ile
465                      470                      475                      480
Pro Ala His Gly Trp Val Asp Tyr Ala Pro Ser Ser Thr Pro Ala Pro
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Gly Asn Ala Asp Pro Val Leu Ile Ile Phe Gly Cys Phe Cys Gly Phe
            500                      505                      510
Ile Leu Ile Gly Leu Ile Leu Tyr Ile Ser Leu Ala Ile Arg Lys Arg
            515                      520                      525
Val Gln Glu Thr Lys Phe Gly Asn Ala Phe Thr Glu Glu Asp Ser Glu
        530                      535                      540
Leu Val Val Asn Tyr Ile Ala Lys Lys Ser Phe Cys Arg Arg Ala Ile
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Glu Leu Thr Leu His Ser Leu Gly Val Ser Glu Glu Leu Gln Asn Lys
            565                      570                      575
Leu Glu Asp Val Val Ile Asp Arg Asn Leu Leu Ile Leu Gly Lys Ile
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Leu Gly Glu Gly Glu Phe Gly Ser Val Met Glu Gly Asn Leu Lys Gln
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Glu Asp Gly Thr Ser Leu Lys Val Ala Val Lys Thr Met Lys Leu Asp
        610                      615                      620
Asn Ser Ser Gln Arg Glu Ile Glu Glu Phe Leu Ser Glu Ala Ala Cys
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Met Lys Asp Phe Ser His Pro Asn Val Ile Arg Leu Leu Gly Val Cys
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Ile Glu Met Ser Ser Gln Gly Ile Pro Lys Pro Met Val Ile Leu Pro
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Phe Met Lys Tyr Gly Asp Leu His Thr Tyr Leu Leu Tyr Ser Arg Leu
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Glu Thr Gly Pro Lys His Ile Pro Leu Gln Thr Leu Leu Lys Phe Met
        690                      695                      700
Val Asp Ile Ala Leu Gly Met Glu Tyr Leu Ser Asn Arg Asn Phe Leu
705                      710                      715                      720
His Arg Asp Leu Ala Ala Arg Asn Cys Ile Thr His Leu Ala Ile Leu
            725                      730                      735
Ala Arg Ser Pro Ala Ser Cys Ser Tyr Cys Arg Leu Arg Asp Asp Met
            740                      745                      750
Thr Val Cys Val Ala Asp Phe Gly Leu Ser Lys Lys Ile Tyr Ser Gly
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Asp Tyr Tyr Arg Gln Gly Arg Ile Ala Lys Met Pro Val Lys Trp Ile
        770                      775                      780
Ala Ile Glu Ser Leu Ala Asp Arg Val Tyr Thr Ser Lys Ser Asp Val
785                      790                      795                      800
Trp Ala Phe Gly Val Thr Met Trp Glu Ile Ala Thr Arg Gly Met Thr
                805                      810                      815
Pro Tyr Pro Gly Val Gln Asn His Glu Met Tyr Asp Tyr Leu Leu His
        820                      825                      830
Gly His Arg Leu Lys Gln Pro Glu Asp Cys Leu Asp Glu Leu Tyr Glu
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Ile Met Tyr Ser Cys Trp Arg Thr Asp Pro Leu Asp Arg Pro Thr Phe
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Ser Val Leu Arg Leu Gln Leu Glu Lys Leu Leu Glu Ser Leu Pro Asp
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Val Arg Asn Gln Ala Asp Val Ile Tyr Val Asn Thr Gln Leu Leu Glu
            885                      890                      895
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Ser Ser Glu Gly Leu Ala Gln Gly Ser Thr Leu Ala Pro Leu Asp Leu
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Asn Ile Asp Pro Asp Ser Ile Ile Ala Ser Cys Thr Pro Arg Ala Ala
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Ile Ser Val Val Thr Ala Glu Val His Asp Ser Lys Pro His Glu Gly
    930                 935                 940
Arg Tyr Ile Leu Asn Gly Gly Ser Glu Glu Trp Glu Asp Leu Thr Ser
945                 950                 955                 960
Ala Pro Ser Ala Ala Val Thr Ala Glu Lys Asn Ser Val Leu Pro Gly
                965                 970                 975
Glu Arg Leu Val Arg Asn Gly Val Ser Trp Ser His Ser Ser Met Leu
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ctggcccagg gctccaccct tgctccactg gacttgaaca tcgaccctga ctctataatt 2760
gcctcctgca ctccccgcgc tgccatcagt gtggtcacag cagaagttca tgacagcaaa 2820
cctcatgaag gacggtacat cctgaatggg ggcagtgagg aatgggaaga tctgacttct 2880
gcccccctctg ctgcagtcac agctgaaaag aacagtgttt taccgggggga gagacttgtt 2940
aggaatgggg tctcctggtc ccattcgagc atgctgccct tgggaagctc attgcccgat 3000
gaacttttgt ttgctgacga ctcctcagaa ggctcagaag tcctgatg              3048
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<210> 4
<211> 999
<212> PRT
<213> Homo sapiens

<300>
<308> SWISSPROT/Q12866
<309> 2001-10-16

<400> 4
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Met Gly Pro Ala Pro Leu Pro Leu Leu Leu Gly Leu Phe Leu Pro Ala
1               5                   10                  15
Leu Trp Arg Arg Ala Ile Thr Glu Ala Arg Glu Glu Ala Lys Pro Tyr
            20                  25                  30
Pro Leu Phe Pro Gly Pro Phe Pro Gly Ser Leu Gln Thr Asp His Thr
        35                  40                  45
Pro Leu Leu Ser Leu Pro His Ala Ser Gly Tyr Gln Pro Ala Leu Met
    50                  55                  60
Phe Ser Pro Thr Gln Pro Gly Arg Pro His Thr Gly Asn Val Ala Ile
65                  70                  75                  80
Pro Gln Val Thr Ser Val Glu Ser Lys Pro Leu Pro Pro Leu Ala Phe
                85                  90                  95
Lys His Thr Val Gly His Ile Ile Leu Ser Glu His Lys Gly Val Lys
            100                 105                 110
Phe Asn Cys Ser Ile Asn Val Pro Asn Ile Tyr Gln Asp Thr Thr Ile
        115                 120                 125
Ser Trp Trp Lys Asp Gly Lys Glu Leu Leu Gly Gly His His Arg Ile
    130                 135                 140
Thr Gln Phe Tyr Pro Asp Asp Glu Val Thr Ala Ile Ile Ala Ser Phe
145                 150                 155                 160
Ser Ile Thr Ser Val Gln Arg Ser Asp Asn Gly Ser Tyr Ile Cys Lys
                165                 170                 175
Met Lys Ile Asn Asn Glu Glu Ile Val Ser Asp Pro Ile Tyr Ile Glu
            180                 185                 190
Val Gln Gly Leu Pro His Phe Thr Lys Gln Pro Glu Ser Met Asn Val
        195                 200                 205
Thr Arg Asn Thr Ala Phe Asn Leu Thr Cys Gln Ala Val Gly Pro Pro
    210                 215                 220
Glu Pro Val Asn Ile Phe Trp Val Gln Asn Ser Ser Arg Val Asn Glu
225                 230                 235                 240
Gln Pro Glu Lys Ser Pro Gly Val Leu Thr Val Pro Gly Leu Thr Glu
                245                 250                 255
```

```
Met Ala Val Phe Ser Cys Glu Ala His Asn Asp Lys Gly Leu Thr Val
        260                 265             270
Ser Gln Gly Val Gln Ile Asn Ile Lys Ala Ile Pro Ser Pro Pro Thr
        275             280             285
Glu Val Ser Ile Arg Asn Ser Thr Ala His Ser Ile Leu Ile Ser Trp
    290             295                 300
Val Pro Gly Phe Asp Gly Tyr Ser Pro Phe Arg Asn Cys Ser Ile Gln
305             310                 315                 320
Val Lys Glu Ala Asp Pro Leu Gly Asn Gly Ser Val Met Ile Phe Asn
            325                 330                 335
Thr Ser Ala Leu Pro His Leu Tyr Gln Ile Lys Gln Leu Gln Ala Leu
        340                 345                 350
Ala Asn Tyr Ser Ile Gly Val Ser Cys Met Asn Glu Ile Gly Trp Ser
        355             360                 365
Ala Val Ser Pro Trp Ile Leu Ala Ser Thr Thr Glu Gly Ala Pro Ser
    370             375                 380
Val Ala Pro Leu Asn Val Thr Val Phe Leu Asn Glu Ser Ser Asp Asn
385             390                 395                 400
Val Asp Ile Arg Trp Met Lys Pro Pro Thr Lys Gln Gln Asp Gly Glu
            405                 410                 415
Leu Val Gly Tyr Arg Ile Ser His Val Trp Gln Ser Ala Gly Ile Ser
        420                 425                 430
Lys Glu Leu Leu Glu Glu Val Gly Gln Asn Gly Ser Arg Ala Arg Ile
        435                 440                 445
Ser Val Gln Val His Asn Ala Thr Cys Thr Val Arg Ile Ala Ala Val
    450             455                 460
Thr Arg Gly Gly Val Gly Pro Phe Ser Asp Pro Val Lys Ile Phe Ile
465             470                 475                 480
Pro Ala His Gly Trp Val Asp Tyr Ala Pro Ser Ser Thr Pro Ala Pro
            485             490                 495
Gly Asn Ala Asp Pro Val Leu Ile Ile Phe Gly Cys Phe Cys Gly Phe
        500                 505                 510
Ile Leu Ile Gly Leu Ile Leu Tyr Ile Ser Leu Ala Ile Arg Lys Arg
        515                 520                 525
Val Gln Glu Thr Lys Phe Gly Asn Ala Phe Thr Glu Glu Asp Ser Glu
    530             535                 540
Leu Val Val Asn Tyr Ile Ala Lys Lys Ser Phe Cys Arg Arg Ala Ile
545             550                 555                 560
Glu Leu Thr Leu His Ser Leu Gly Val Ser Glu Glu Leu Gln Asn Lys
            565                 570                 575
Leu Glu Asp Val Val Ile Asp Arg Asn Leu Leu Ile Leu Gly Lys Ile
            580             585                 590
Leu Gly Glu Gly Glu Phe Gly Ser Val Met Glu Gly Asn Leu Lys Gln
        595                 600                 605
Glu Asp Gly Thr Ser Leu Lys Val Ala Val Lys Thr Met Lys Leu Asp
    610             615                 620
Asn Ser Ser His Arg Glu Ile Glu Glu Phe Leu Ser Glu Ala Ala Cys
625                 630                 635                 640
Met Lys Asp Phe Ser His Pro Asn Val Ile Arg Leu Leu Gly Val Cys
            645                 650                 655
Ile Glu Met Ser Ser Gln Gly Ile Pro Lys Pro Met Val Ile Leu Pro
            660                 665                 670
Phe Met Lys Tyr Gly Asp Leu His Thr Tyr Leu Leu Tyr Ser Arg Leu
        675                 680                 685
Glu Thr Gly Pro Lys His Ile Pro Leu Gln Thr Leu Leu Lys Phe Met
        690                 695                 700
Val Asp Ile Ala Leu Gly Met Glu Tyr Leu Ser Asn Arg Asn Phe Leu
705             710                 715                 720
His Arg Asp Leu Ala Ala Arg Asn Cys Met Leu Arg Asp Asp Met Thr
```

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```
                    725                 730                 735
Val Cys Val Ala Asp Phe Gly Leu Ser Lys Lys Ile Tyr Ser Gly Asp
                740                 745                 750
Tyr Tyr Arg Gln Gly Arg Ile Ala Lys Met Pro Val Lys Trp Ile Ala
                755                 760                 765
Ile Glu Ser Leu Ala Asp Arg Val Tyr Thr Ser Lys Ser Asp Val Trp
        770                 775                 780
Ala Phe Gly Val Thr Met Trp Glu Ile Arg Thr Arg Gly Met Thr Pro
785                 790                 795                 800
Tyr Pro Gly Val Gln Asn His Glu Met Tyr Asp Tyr Leu Leu His Gly
                805                 810                 815
His Arg Leu Lys Gln Pro Glu Asp Cys Leu Asp Glu Leu Tyr Glu Ile
                820                 825                 830
Met Tyr Ser Cys Trp Arg Thr Asp Pro Leu Asp Arg Pro Thr Phe Ser
        835                 840                 845
Val Leu Arg Leu Gln Leu Glu Lys Leu Leu Glu Ser Leu Pro Asp Val
    850                 855                 860
Arg Asn Gln Ala Asp Val Ile Tyr Val Asn Thr Gln Leu Leu Glu Ser
865                 870                 875                 880
Ser Glu Gly Leu Ala Gln Gly Pro Thr Leu Ala Pro Leu Asp Leu Asn
                885                 890                 895
Ile Asp Pro Asp Ser Ile Ile Ala Ser Cys Thr Pro Arg Ala Ala Ile
        900                 905                 910
Ser Val Val Thr Ala Glu Val His Asp Ser Lys Pro His Glu Gly Arg
        915                 920                 925
Tyr Ile Leu Asn Gly Gly Ser Glu Glu Trp Glu Asp Leu Thr Ser Ala
    930                 935                 940
Pro Ser Ala Ala Val Thr Ala Glu Lys Asn Ser Val Leu Pro Gly Glu
945                 950                 955                 960
Arg Leu Val Arg Asn Gly Val Ser Trp Ser His Ser Ser Met Leu Pro
                965                 970                 975
Leu Gly Ser Ser Leu Pro Asp Glu Leu Leu Phe Ala Asp Asp Ser Ser
        980                 985                 990
Glu Gly Ser Glu Val Leu Met
        995
```

```
<210> 5
<211> 235
<212> PRT
<213> Homo sapiens

<400> 5
Thr Gly Pro Lys His Ile Pro Leu Gln Thr Leu Trp Lys Phe Met Val
 1               5                   10                  15
Asp Ile Ala Leu Gly Met Glu Tyr Leu Ser Asn Arg Asn Phe Leu His
            20                  25                  30
Arg Asp Leu Ala Ala Arg Asn Cys Ile Thr His Leu Ala Ile Leu Ala
        35                  40                  45
Arg Ser Pro Ala Ser Cys Ser Tyr Cys Arg Leu Arg Asp Asp Met Thr
    50                  55                  60
Val Cys Val Ala Asp Phe Gly Leu Ser Lys Lys Ile Tyr Ser Gly Asp
65                  70                  75                  80
Tyr Tyr Arg Gln Gly Arg Ile Ala Lys Met Pro Val Lys Trp Ile Ala
                85                  90                  95
Ile Glu Ser Leu Ala Asp Arg Val Tyr Thr Ser Lys Ser Asp Val Trp
            100                 105                 110
Ala Phe Gly Val Thr Met Trp Glu Asp Asp Met Thr Val Cys Val Ala
        115                 120                 125
```

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```
Asp Phe Gly Leu Ser Lys Lys Ile Tyr Ser Gly Asp Tyr Tyr Arg Gln
        130             135             140
Gly Arg Ile Ala Lys Met Pro Val Lys Trp Ile Ala Ile Glu Ser Leu
145             150             155             160
Ala Asp Arg Val Tyr Thr Ser Lys Ser Asp Val Trp Ala Phe Gly Val
            165             170             175
Thr Met Trp Glu Ile Ala Thr Arg Gly Met Thr Pro Tyr Pro Gly Val
        180             185             190
Gln Asn His Glu Met Tyr Asp Tyr Leu Leu His Gly His Arg Leu Lys
        195             200             205
Gln Pro Glu Asp Cys Leu Asp Glu Leu Tyr Glu Ile Met Tyr Ser Cys
    210             215             220
Trp Arg Thr Asp Pro Leu Asp Arg Pro Pro Phe
225             230             235
```

```
<210> 6
<211> 830
<212> DNA
<213> Homo sapiens

<400> 6
cgggatcgat tattaccgcc aaggccgcat tgctaagatg cctgttaaat ggatcgccat 60
aggaaggtct tgcagaccga gtctacacaa gtaaaagtga tgtgtgggca tttggcgtga 120
ccatgtggga aatagctacg cggggaatga ctccctatcc tggggtccag aaccatgaga 180
tgtatgacta tcttctccat ggccacaggt tgaagcagcc cgaagactgc ctggatgaac 240
tgtatgaaat aatgtactct tgctggagaa ccgatccctt agaccgcccc acctttcag 300
tattgaggct gcagctagaa aaactcttag aaagtttgcc tgacgttcgg aaccaagcag 360
acgttattta cgtcaataca cagttgctgg agagctctga gggcctggcc agggctccac 420
ccttgctcca ctggacttga acatcgaccc tgactctata attgcctcct gcactccccg 480
cgctgccatc agtgtggtca cagcagaagt tcatgacagc aaacctcatg aaggacggta 540
catcctgaat gggggcagtg aggaatggga agatctgact tctgcccct ctgctgcagt 600
cacagctgaa aagaacagtg ttttaccggg ggagagactt gttaggaatg gggtctcctg 660
gtcccattcg agcatgctgc ccttgggaag ctcattgccc gatgaacttt gtttgctgac 720
gactcctcag aaggctcaga agtcctgatg tgaggagagg tgcggcgaga cattccaaaa 780
aatcaaagcc aattcttctg ctgtaggagg aatccaattg tacctgatgt         830
```

```
<210> 7
<211> 1126
<212> DNA
<213> Homo sapiens

<400> 7
gtgagccctt ggattctagc cagcacgact gaaggagccc catcagtagc acctttaaat 60
gtcactgtgt ttctgaatga atctagtgat aatgtggaca tcagatggat gaagcctccg 120
actaagcagc aggatggaga actggtgggc taccggatat cccacgtgtg gcagagtgca 180
gggatttcca aagagctctt ggaggaagtt ggccagaatg gcagccgagc tcggatctct 240
gttcaagtcc acaatgctac gtgcacagtg aggattgcag ccgtcaccag aggggagtt 300
gggcccttca gtgatccagt gaaaatattt atccctgcac acggttgggt agattatgcc 360
ccctcttcaa ctccggcgcc tggcaacgca gatcctgtgc tcatcatctt ggctgctttt 420
tgtggattta tttcgattgg gttgatttta tacatctcct tggccatcag aaaaagagtc 480
caggagacaa agtttgggaa tgcattcaca gaggaggatt ctgaattagt ggtgaattat 540
ataagcaaca gaaatccttc tgttcggcga gccattgaac ttaccttaca tagcttggga 600
gtcagtgagg aactacaaaa taactaaacg atgtcgtgat tgacaggaat cttctaatct 660
tggacacact tctgggtgaa ggagagttgc gctccggact ggacaggcaa tcttcaagcc 720
agcaccatgg gacctctccc aaaattggcc tgaaaccttg aacgtcgcgc acacttcca 780
ccggcagacc cagcgatcac caccgacaga cgctcctgta agacttcagc ccgaattgtt 840
ccgcacactt acgacgcgcg gtactccaaa acaacaacca cagggaagtc acaaacacac 900
tggataataa acctgattca aagaagtggg acacgctgaa tactcagcat tattccgccg 960
```

```
tggccaacag accaacgatc gtcgcagcga ccaagaagca tcgcgcagct acgcctgagc 1020
agaatgtctc cacagatgat ctcaatcata ctgaaacgca ggcaagtaca tcatgcggaa 1080
gaccgaaaat actaatcagc atataagacc acaatcatat gatctc          1126
```

<210> 8
<211> 762
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(762)
<223> n = A,T,C or G

<400> 8
```
gacaggacca aagcatattc ctctgcagac actatggaag ttcatggtgg atattgccct 60
gggaatggag tatctgagca acaggaattt tcttcatcga gatttagctg ctcgaaactg 120
catcacccac ctggccatct tagcaagaag cccagcatct tgctcttact gcaggttgcg 180
agatgacatg actgtctgtg ttgcggactt cggcctctct aagaagattt acagtggcga 240
ttattaccgc caaggccgca ttgctaagat gcctgttaaa tggatcgcca tagaaagtct 300
tgcagaccga gtctacacaa gtaaaagtga tgtgtgggca tttggcgtga ccatgtggga 360
aatagctacg cggggaatga ctccctatcc tggggtccag aaccatgaga tgtatgacta 420
tcttctccat ggccacaggt tgaagcagcc cgaagactgc ctggatgaac tgtatgaaat 480
aatgtactct tgctggagaa ccgatccctt agaccgccca ccttttcagt attgaggctg 540
cagctagaaa aactcttaga aagtttgctg acgttcggaa ccaagcagac gttatttacg 600
tcaatacaca gttgctggag agctctgagg cctggccaan ggctcaccct tgcttcactg 660
gacttgaaca tcgacctgat ctattaattg cctctggatc ccggctgcat cagtgggtcc 720
cggcaagtta tggcagaact ctgaggggggg aacctgaaag gg          762
```

<210> 9
<211> 602
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(602)
<223> n = A,T,C or G

<400> 9
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ccttaccaca tctgtaccaa atcaagcagc tgcaagccct ggctaattac agcattggtg 60
tttcctgcat taatgaaata ggctggtctg cagtgagccc ttggattcta gccagcacga 120
ctgaaggagc cccatcagta gcacctttaa atgtcactgt gtttctgaat gaatctagtg 180
ataatgtgga catcagatgg atgaagcctc cgactaagca gcaggatgga gaactggtgg 240
gctaccggat atcccacgtg tggcanagtg cagggatttc caaagagctc ttggaggaag 300
ttggccagaa tggcagccga gctcggatct ctgttcaagt ccacaatgct acgtgcacag 360
tgaggattgc agccgtcacc aaaggggggan ttgggcccctt caatgatcca gtgaaaatat 420
ttatccctgc acacggttgg gtanattatg cccctctttc aactccggcg cctggcaacn 480
caaatcctgt gctcatcatc tttggctgct tttgtggatt tatttttgatt gggttggttt 540
tatacatctc cttgggncat canaaaaana tccaggagac naatttgggg aatgccttcc 600
cn                                                            602
```

<210> 10
<211> 547
<212> DNA
<213> Homo sapiens

<400> 10
```
ggcgtgacca tgtgggaaat agctacgcgg ggaatgactc cctatcctgg ggtccagaac 60
```

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```
catgagatgt atgactatct tctccatggc cacaggttga agcagcccga agactgcctg 120
gatgaactgt atgaaataat gtactcttgc tggagaaccg atcccttaga ccgccccacc 180
ttttcagtat tgaggctgca gctagaaaaa ctcttagaaa gtttgcctga cgttcggaac 240
caagcagacg ttatttacgt caatacacag ttgctggaga gctctgaggg cctggcccag 300
ggctccaccc ttgctccact ggacttgaac atcgaccctg actctataat tgcctcctgc 360
actccccgcg ctgccatcag tgtggtcaca gcagaagttc atgacagcaa acctcatgaa 420
ggacggtaca tcctgaatgg gggcagtgag gaatgggaag atctgacttc tgccccctct 480
gctgcagtca cagctgaaaa gaacagtgtt ttaccggggg agagacttgt taggaatggg 540
gtctcct                                                         547
```

```
<210> 11
<211> 633
<212> DNA
<213> Homo sapiens
```

```
<400> 11
tatgaatgaa ataggctggt ctgcagtgag cccttggatt ctagccagca cgactgaagg 60
agccccatca gtagcacctt taaatgtcac tgtgtttctg aatgaatcta gtgataatgt 120
ggacatcaga tggatgaagc ctccgactaa gcagacagga tggagaactg gtgggctacc 180
ggatatccca cgtgtggcag agtgcaggga tttccaaaga gctcttggag gaagttggcc 240
agaatggcag ccgagctcgg atctctgttc aagtccacaa tgctacgtgc acagtgagga 300
ttgcagccgt caccaaaggg ggagttgggc ccttcagtga tccagtgaaa atatttatcc 360
ctgcacacgg ttgggtagat tatgccccct cttcaactcc ggcgcctggc aacgcagatc 420
ctgtgctcat catctttggc tgcttatgtg gatttatata gataggggtt gtttttataca 480
tctccttgga catcagaaaa agagtccagg agacaaagtc tgggaatgca ttcacagagg 540
aggattctga attagggtga cttatatagc aaagaaatcc ttctgtcgga gagccattga 600
acttaccctta catagctagg gagtcagtga ggg                          633
```

```
<210> 12
<211> 635
<212> DNA
<213> Homo sapiens
```

```
<400> 12
gggaattcgg acttctggcc ggcagtttat ccgatttgaa gttacagaat aatcgcttcc 60
ttcagcataa ccagtgtgca gcgttcagac aatgggtcgt atatctgtaa gatgaaaata 120
aacaatgaag agatcgtgtc tgatcccatc tacatcgaag acaaggactt cctcactttta 180
ctaatcagtc tgagagcatg aatgtcacca gaaacacagc cttcaacctc tcctgtcagg 240
ctgtgggccc gcctgagccc gtcaacattt tctgggttca aaacagtagc cgtgttaacg 300
aacagcctga aaaatccccc tccgtgctaa ctgttccagg cctgacggag atggcggtct 360
tcagttgtga ggcccacaat gacaaagggc tgaccgtgtc caagggagtg cagatcaaca 420
tcaaagcaat tccctcccca ccaactgaag tcagcatccg taacaacact gcacacagca 480
ttctgatctc ctgggttcct ggttttgatg gatactcccc gttcaggaat tgcagcattc 540
aggtcaagga agctgatccg ctgagtaatg gctcagtcat gattttttac acctctgcct 600
taccacatct gtaccaaatc aagcagctgc aagcc                         635
```

```
<210> 13
<211> 766
<212> DNA
<213> Homo sapiens
```

```
<400> 13
cgtgaccatg tgggaaatag ctacgcgggg aatgactccc tatcctgggg tccagaacca 60
tgagatgtat gactatcttc tccatggcca caggttgaag cagcccgaag actgcctgga 120
tgaactgtat gaaataatgt actcttgctg gagaaccgat cccttagacc agcccacctt 180
ttcagtattg aggctgcagc tagaaaaact cttagaaagt ttgcctgacg ttcggaacca 240
agcagacgtt atttacgtca atacacagtt gctggagagc tctgagggcc tggcccaggg 300
ctccacccttt gctccactgg acttgaacat cgaccctgac tctataattg cctcctgcac 360
tccccgcgct gccatcagtg tggtcacagc agaagttcat gacagcaaac ctcatgaacg 420
```

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```
gacggtacat cctgaatggg ggcagtgagg aatgggaaga tctgacttct gccccctctg 480
ctgcagtcac agctgaaaag aacagtgttt taccggggga gagacttgtt aggaattggg 540
gtctcctggt cccattcgag catgctgccc ttgggaagct cattgccgat gaactttcgt 600
tgctgacgaa tcctcagaag gctcagaagt ctgatgtgag gaccaggtgc cgggaaaaca 660
ttccaaaaat caagcaaatc ttctgctgta ggaaaaccat tgttcctgat gtttcggcat 720
tgggctcctt aacaagtgaa ctcatgggcc aaaagaccag atgacc              766
```

```
<210> 14
<211> 616
<212> DNA
<213> Homo sapiens
```

```
<400> 14
agcggggaac aactcacttg tgtaagagac aaataccaaa aacatcaggt acaattggat 60
tctcctacag cagaagaatg ggcttgattt tgggaatgtc tccccgcacc tctcctcaca 120
tcaggacttc tgagccttct gaggagtcgt cagcaaacaa aagttcatcg ggcaatgagc 180
ttcccaaggg cagcatgctt gaatgggacc aggagacccc attcctaaca agtctctccc 240
ccggtaaaac actgttcttt tcagctgtga ctgcagcaga gggggcagaa gtcagatctt 300
cccattcctc agtgccccca ttcaggatgt accgtccttc atgaggtgtg ctgtcatgaa 360
cttctgctgt gaccacactg atggcagcgc ggggagtgca ggaggcaatt atagagtcag 420
ggtcgatgtt caagtccagt ggagcaaggg tggagccctg ggccaggccc tcagagctct 480
ccagcaactg tgtatagacg taaataatgt cggcttggtt ccgaacgtca ggcaaccttt 540
ctaagagttt atctagctgc agcctcaata ctgaaaaggt gggggcggtc tacgggatcg 600
gtctccagca agagtc                                              616
```

```
<210> 15
<211> 971
<212> DNA
<213> Homo sapiens
```

```
<220>
<221> misc_feature
<222> (1)...(971)
<223> n = A,T,C or G
```

```
<400> 15
acctttttcag ntattgaggc tgcagctaga aaaactctta gaaagtttgc ctgacgttcg 60
gaaccaagca gacgttattt acgtcaatac acagttgctg gagagctctg agggcctggc 120
ccagggctcc acccttgctc cactggactt gaacatcgac cctgactcta taattgcctc 180
ctgcactccc cgcgctgcca tcagtgtggt cacagcagaa gttcatgaca gcaaacctca 240
tgaaggacgg tacatcctga atgggggcag tgaggaatgg gaagatctga cttctgcccc 300
ctctgctgca gtcacagctg aaaagaacag tgttttaccg ggggagagac ttgttaggaa 360
tggggtctcc tggtcccatt cgagcatgct gcccttggga agctcattgc cgatgaact 420
tttgtttgct gacgactcct cagaaggctc agaagtcctg atgtgaggag aggtgcgggg 480
agacattcca aaaatcaagc caattcttct gctgtaggag aatccaattg tacctgatgt 540
tttggtattt gtcttcctta ccaagtgaac tccatgngcc ccaaagcacc agatgaatgt 600
tgttaagtaa gctgtcatta aaaataccta atatatattt atttcaccga cgaacccct 660
ctgtgtctct catggcagcc ccgaccagga ctctctaatt aaacatttct tatttcattt 720
cacttatctg ctattcttaa aattagctca gtggtctgat tttacacttg tcgagtgaag 780
ctgtttttcac ggcttctttt cggcataagg gcacacttgg cacgccagcc catgctgggc 840
ggccatgttt taacaagatc tcacgtgcag gtaaacgact acggggcgcg caccgaggaa 900
aagacgccat acggcgcccc ccgtagtcat acatagtccg aaattgggac acatgatgaa 960
attacatccc n                                                    971
```

```
<210> 16
<211> 484
<212> DNA
<213> Homo sapiens
```

```
<400> 16
aaaaactttt agaaagtttg cctgacgttc ggaaccaagc agacgttatt tacgtcaata 60
cacagttgct ggagagctct gagggcctgg cccagggctc cacccttgct ccactggact 120
tgaacatcga ccctgactct ataattgcct cctgcactcc ccgcgctgcc atcagtgtgg 180
tcacagcaga agttcatgac agcaaacctc atgaaggacg gtacatcctg aatgggggca 240
gtgaggaatg ggaagatctg acttctgccc cctctgctgc agtcacagct gaaaagaaca 300
gtgttttacc gggggagaga cttgttagga atggggtctc ctggtcccat tcgagcatgc 360
tgcccttggg aagctcattg cccgatgaac ttttgtttgc tgacgactcc tcagaaggct 420
cagaagtcct gatgtgagga gaggtgcggg gagacattcc aaaaatcaag ccaattcttc 480
tgca                                                              484

<210> 17
<211> 431
<212> DNA
<213> Homo sapiens

<400> 17
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gagctcggat ctctgttcaa gtccacaatg ctacgtgcac agtgaggatt gcagccgtca 180
ccaaagggggg agttgggccc ttcagtgatc cagtgaaaat atttatccct gcacacggtt 240
gggtagatta tgccccctct tcaactccgg cgcctggcaa cgcagatcct gtgctcatca 300
tctttggctg ctcttgtgga tgtatattga ttgggttggt tttatacatc tacttggaca 360
tcagaaaaag agtccaggag acaaagtttg ggaatgcata cacagaggag gattctgaat 420
gagtggtgaa t                                                      431

<210> 18
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> random oligonucleotide

<400> 18
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<210> 19
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer1

<400> 19
cgtgttaacg aacagcctga                                             20

<210> 20
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer2

<400> 20
caactgaaga ccgccatctc                                             20
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<210> 21
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe1

<400> 21
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